

LISTING OF CLAIMS

The following listing reflects the claims currently pending in the application. No amendments to the claims are made herein.

1. (Previously presented) A method for isolating an authentic, properly folded insulin-like growth factor (IGF) polypeptide from a medium into which the IGF polypeptide has been secreted by *Pichia pastoris* cells expressing the IGF polypeptide, wherein the method comprises:

(a) performing a cation exchange chromatography with the medium to yield a first IGF mixture;

(b) denaturing and renaturing IGF species present in the first IGF mixture to yield a second IGF mixture;

(c) subjecting the second IGF mixture to hydrophobic interaction chromatography to yield a third IGF mixture; and

(d) performing reverse phase high performance liquid chromatography on the third IGF mixture to yield a fourth IGF mixture, wherein the fourth IGF mixture has a greater amount of authentic, properly folded IGF than the first IGF mixture, and further wherein only one cation exchange step is performed in the method.

2. (Cancelled)

3. (Original) The method of claim 1, wherein the method further comprises raising the pH of the yeast cell medium which comprises yeast cells to about pH 8 to about pH 12, prior to the first cation exchange chromatography.

4. (Original) The method of claim 3, wherein the method comprises raising the pH of the yeast cell medium which comprises yeast cells to about pH 10 to about pH 11, prior to the first cation exchange chromatography.

5. (Original) The method of claim 1, wherein the first cation exchange chromatography is performed using a sulfopropylated matrix.

6. (Cancelled)

7. (Original) The method of claim 1, wherein the denaturing and renaturing steps are performed together using a denaturation buffer comprising urea, dithiothreitol, alcohol and salt, in sufficient amounts and under conditions which allow for the reduction and subsequent oxidation of disulfide bonds.

8. (Original) The method of claim 7, wherein the denaturation buffer comprises about 1 to about 4 M urea, about 1 mM to about 75 mM sodium borate, about .5 M to about 3 M sodium chloride, about 10% to about 30% ethanol and about 0.5- to about 7-fold molar excess of dithiothreitol.

9. (Original) The method of claim 8, wherein the denaturation buffer comprises about 1.5 M to about 3 M urea, about 3 to about 50 mM sodium borate, about 1 M to about 1.5 M sodium chloride, about 15% to about 25% ethanol, and about an equimolar to about a 5-fold molar excess of dithiothreitol.

10. (Original) The method of claim 1, wherein the hydrophobic interaction chromatography is performed using a polyethyleneamine matrix.

11. (Original) The method of claim 1, wherein the hydrophobic interaction chromatography is performed using a butyl- or phenyl-substituted poly(methacrylate) matrix.

12. (Original) The method of claim 1, wherein the reverse phase high performance liquid chromatography is performed using a C₈ silica-derivatized resin.

13-16. (Cancelled)

17. (Original) The method of claim 1, wherein the IGF is IGF-I.

18. (Original) The method of claim 1, wherein the IGF is IGF-II.

19-46. (Cancelled)

47. (Previously presented) A method for isolating an authentic, properly folded insulin-like growth factor (IGF) polypeptide from a medium into which the IGF polypeptide has been secreted by *Pichia pastoris* cells expressing the IGF polypeptide, wherein the method comprises:

(a) performing a cation exchange chromatography with the medium to obtain a partially purified IGF mixture;

(b) denaturing and renaturing partially purified IGF species;

(c) subjecting renatured IGF species to hydrophobic interaction chromatography;

and

(d) performing reverse phase high performance liquid chromatography to obtain a further purified IGF mixture, wherein the further purified IGF mixture has a greater amount of authentic, properly folded IGF than the partially purified IGF mixture, and further wherein only one cation exchange step is performed in the method.

48. (Cancelled)

49. (Previously presented) The method of claim 47, wherein the method further comprises raising the pH of the yeast cell medium which comprises yeast cells to about pH 8 to about pH 12, prior to the first cation exchange chromatography.

50. (Previously presented) The method of claim 49, wherein the method comprises raising the pH of the yeast cell medium which comprises yeast cells to about pH 10 to about pH 11, prior to the first cation exchange chromatography.

51. (Previously presented) The method of claim 47, wherein the first cation exchange chromatography is performed using a sulfopropylated matrix.

52. (Cancelled)

53. (Previously presented) The method of claim 47, wherein the denaturing and renaturing steps are performed together using a denaturation buffer comprising urea, dithiothreitol, alcohol and salt, in sufficient amounts and under conditions which allow for the reduction and subsequent oxidation of disulfide bonds.

54. (Previously presented) The method of claim 53, wherein the denaturation buffer comprises about 1 to about 4 M urea, about 1 mM to about 75 mM sodium borate, about .5 M to about 3 M sodium chloride, about 10% to about 30% ethanol and about 0.5- to about 7-fold molar excess of dithiothreitol.

55. (Previously presented) The method of claim 54, wherein the denaturation buffer comprises about 1.5 M to about 3 M urea, about 3 to about 50 mM sodium borate, about 1 M to about 1.5 M sodium chloride, about 15% to about 25% ethanol, and about an equimolar to about a 5-fold molar excess of dithiothreitol.

56. (Previously presented) The method of claim 47, wherein the hydrophobic interaction chromatography is performed using a polyethyleneamine matrix.

57. (Previously presented) The method of claim 8, wherein the hydrophobic interaction chromatography is performed using a butyl- or phenyl-substituted poly(methacrylate) matrix.

58. (Previously presented) The method of claim 47, wherein the reverse phase high performance liquid chromatography is performed using a C₄ to C₁₀ silica-derivatized resin.

59-62. (Cancelled)

63. (Previously presented) The method of claim 47, wherein the IGF is IGF-I or an analog thereof.

64. (Previously presented) The method of claim 63, wherein the IGF is IGF-I.